

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015165**Date Inspected:** 24-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Field Splice W4/W5

B). Witnessed Procedure Qualification Record (PQR) Test

A). Field Splice W4/W5

The QAI performed a random ultrasonic verification test of the Complete Joint Penetration (CJP) groove weld identified as WN: 4W-5W-A. A total area of approximately 10% was ultrasonically tested to verify the weld and testing by QC meet the requirements of the contract documents. The examination was performed in the first and second leg and a ultrasonic test report, TL6027, was generated on this date.

B). Procedure Qualification Record (PQR) Test

At approximately 1400, the QAI at the request of the Quality Control Inspector Michael Johnson, observed and witnessed the welding of the PQR test plate performed by welding personnel Rick Clayborn ID-2773 utilizing the Shielded Metal Arc Welding (SMAW) process as per the Procedure Qualification Test (PQR) No.

ABF-PQR-036-3 Rev. 0. The PQR was also used by the QC inspector and the QAI as a reference to monitor the welding and verify the Direct Current Electrode Positive (DCEP) welding parameters. The Lincoln Excalibur electrode, E9018-M-H4R, appeared to comply with the AWS Specification A5.5-06 and the AWS Classification

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E9018-M-H4R. The 35mm thick plate appeared to comply with the material specification identified as ASTM-A709 Grade 485W and the assembly fit-up, the root opening and groove angle dimensions of the single-v-groove joint were inspected by the QC inspector and were noted and recorded as follows; a 10mm root opening and a 30 degree included angle. The groove joint appeared to comply with the AWS joint designation identified as B-U2a-GF. The QC inspector utilized a Fluke 337 clamp meter to verify the amperage and a Fluke 189 True RMS Multimeter to verify the voltage verified which were noted and recorded as follows; 124.7 amps, 21.7 volts with a travel speed measured at 54.7mm/minute. The heat input was calculated and recorded as 2.96 kj/mm. The PQR test plate was positioned in the vertical plane with the groove approximately vertical (3G) and the weld progression up. The test was not completed during this shift.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW processes appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate the work observed during this scheduled shift.



Summary of Conversations:

There were no pertinent conversations were discussed in regards to the project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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Inspected By:	Reyes,Danny	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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